



Quad/Graphics/Menomonee Falls, WI

**Cutting Down on Trips --
Within the DC**



The management of the vast Quad/Graphics distribution center in Menomonee Falls, WI optimizes use of their space by shortening the distance from the floor to the door when moving pallets of product through their supply chain. This is part of their effort to save money on their cross-country trips even before product sets out on the journey. The SERCO® equipment on their loading dock makes sure that the doorway they need is available every time.

One of the tactics of Quad's long-time sustainability program has been to reduce the amount of miles that their trucking services spend on the road. Until a few years ago, Quad was storing and shipping out of their five Southeastern Wisconsin plants, which were, according to Quad Distribution Operations Manager Mark Benson, "were mini distribution centers."

This changed when trucking companies decided to limit the number of stops throughout the day, applying a rising scale of costs to the shipper for each stop made involving these partial loads. This led Quad to look at the way they routed partial loads, which comprise 40% of their shipments and decided to send them to a central DC where they could build full loads.

For this purpose Quad moved into a former grocery DC on the west side of Milwaukee. Quad avoided the multi-stop charges, saving the nearly two million miles they could rack up from trucks having to go out of their way. However they soon outgrew that DC and Quad had a new facility built to store these loads.

The challenge in the new location would be pallet flow and excess forklift travel within the 388,000 sq ft building. A poor plan could result in a lot of wasted time for forklifts running back and forth moving pallets throughout the day.

The doorways here," according to Benson, "have a dual function."

Their 40 doors handle both inbound and outbound, which provides Quad with a lot of flexibility. But organization is key here, "enabling us," according to Benson, "to send

**Dock Equipment
Whittles Precious
Seconds for Busy DC**

- **PINPOINT CONTROL** provided by the Serco hydraulic levelers.
- **FAST POSITIONING** by the powered dock leveler lip to match trailer position.
- **ON THE LEVEL** SaftFrame design lengthens the life of the leveler.
- **DOCK STAYS DRY – APS 2000 Vehicle Restraints and Serco Dry Dock team up for a tight dock seal.**
- **SURE GRIP** and quick release of truck trailers by APS 2000 truck restraints.

Quad/Graphics

out full truck loads.”

The WMS developed by Quad, with the help of bar codes on the pallets, doorways and placards over the DC floor locations determines pallet position for the shortest distance from the staging location to the doorway. “The system knows,” says Benson, “if say certain pallets are to ship out on Monday, so it sets aside empty bays to stage all of the Monday pallets.”

Forklift-mounted computers direct the drivers to the pallet positions and through the nearly eight acre facility. Along with making the best use of their DC space, the Menomonee Falls site can use a bare-bones crew of just eight people a shift for this large volume of shipping, saving money by saving time.

Of course none of this works unless they can access their doorways, and that means the dock equipment has to work consistently. Management chose Serco equipment to enhance the reliability of the operation.

Every shipping and receiving dock at the DC is equipped with Serco 7' x 8' hydraulic dock levelers to handle their wider 9' doorways. The extra doorway width accommodates international shipping containers.

“We have learned,” says Dale Hernke, Quad/Graphics Distribution Services Manager, “that we need the hydraulic units to handle our heavier loads, plus provide better operating life and ease of use.”

The Serco hydraulic levelers shave time off the loading operation by providing a full range of control to position the platform while also providing powered lip control to quickly cycle the lip into the back of the trailer.

“There’s no waiting for the sequencing valve to put out the lip,” says Hernke. “Pop the lip and boom you’re done.” That cuts our cycle time – and waiting time – by two thirds.

Here every minute counts. On an average day they have 70 truckloads coming in and of course an equal number going out with up to 240

trucks at their docks some days. “That cycle time,” notes Benson, “saves us a lot of time.

The leveler’s unique SafeTFrame® design saved installation time and was a major contributor to ensuring the reliability and long life of these units. For decades all pit-mounted dock levelers required an installer to place and weld steel shim under the rear frame of the dock leveler to level the device and provide structural support.

The SafeTFrame design includes four heavy-duty vertical uprights at the rear of the leveler. Each rear support has an adjustable 3”x3” pad on the pit floor.

Rather than working in the pit, the installer at dock floor level adjusts the leveling bolts through head sockets located at the top rear of the dock leveler deck. Once the leveler is adjusted it is welded into place. Forklifts have a level interface from the warehouse floor and solid structural support at the rear of the leveler where it’s needed most to avoid structural fatigue.

APS 2000 Vehicle Restraints (*below*) reduce the risk of accidents occurring from trucks prematurely leaving the



dock while a forklift is operating inside the trailer. Featuring a rotating hook engagement that captures the rear impact guards, the APS 2000 secures the trailer to the dock. Interior and exterior LED green and red lights communicate the status of the dock to the truck driver and forklift operator to ensure safe operation.

The restraints also help reduce trailer creep. The trailer maintains compression against the Serco dock seals to prevent energy loss during

loading/unloading and stop moisture from entering the building. Says Hernke, “We have rolls paper so they can’t get wet. They declined the driveway apron away from the building at a 1% grade so the water is always running away from it.

The trailer roof is a common entry point for rain, snow and other moisture. The dock seals are equipped with Serco’s Dry Dock® Sealing System which literally wipes water off the top of the trailer. “Rain is no longer the problem that it used to be for us,” says Hernke.

Dock seals also need to be flexible to wrap around truck trailers to provide that energy saving seal. But like everything that is pliable, seals wear out over time, especially with the constant friction caused by backing trailers and motion created during the loading process, not to mention the potential for being torn by sharp metal trailer corners. Many times the docks are handling shipping containers that suffer the abuse of the road and eventually their bolts stick out, leading to rips in the seals.

To combat this and prevent extended downtime, the wear pleats on the seals are attached using Velcro (*right*). When debilitating rips occur rather than having to replace the whole panel, the ripped section can be peeled off and a new one installed, getting that dock fully functional again much more quickly.



Quad/Graphics has been in existence just under 40 years, and under only its second generation of leadership, is a giant in a changing and demanding industry. This DC and the dock equipment that helps keep the print flowing through the supply chain is an example of how flexible and focused thinking has kept Quad running at peak efficiency and poised as a leading industry contender.